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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/664,029 | 09/19/2000 | Subir Varma | 164.1014.01 | 5865 |

22883 7590 01/10/2005

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| EXAMINER | |
|---|---|
| DUONG, FRANK | |
| ART UNIT | PAPER NUMBER |
| 2666 | |

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/664,029 | VARMA ET AL. |
| | Examiner | Art Unit |
| | Frank Duong | 2666 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *07 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This Office Action is a response to communications dated 09/07/04. Claims 1-17 are pending in the application.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6, 11 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Esmailzadeh et al (Quasi-Synchronous Time Division Duplex CDMA, IEEE, pages 1637-1641, 1994) (hereinafter "Esmailzadeh").

Regarding **claim 1**, in accordance with Esmailzadeh reference entirety, Esmailzadeh discloses a method of managing time division duplexing (TDD) across plural channels (*Figure 4; channels of User #1-#3*), comprising the step of:

synchronizing frames (*Figure 4*) (*TDD frames of User #1-#3*) across the plural channels (*channels of User #1-#3*) so that upstream frames (*Forward Link frames*) and downstream frames (*Reverse Link frames*) coincide across the plural channels

(*channels of User #1-#3*) (*note: on page 4, section 4, in according to Figure 4,* Esmailzadeh discloses "*the quasi-synchronous state of reception is achieved upon subscription by a mobile unit. A base station transmits to all users at the beginning of each TDD frame. A user, trying to place a call, transmits its reverse link signal after awaiting a nominal waiting time tw. Base station then will instruct the user to increase/decrease tw for the user to make itself quasi-synchronous with other users. Upon achievement of the QS state, the guard time at the base station tgi will be equal for all users (=tg)".* The recitation thereat in view of Figure 4 anticipates the claimed limitation in a manner as recited).

Regarding **claim 6**, in accordance with Esmailzadeh reference entirety, Esmailzadeh discloses a base station (*page 1638, section 4, second paragraph*) that manages time division duplexing (TDD) across plural channels (*Figure 4; channels of User #1-#3*), comprising:

an input/output interface (not shown; inherent in a base station in order to receive data from the MSC);

a transceiver (*not shown; inherent in order to transmit/receive from mobiles*);

a controller that synchronizes frames (*Figure 4*) (*TDD frames of User #1-#3*) across the plural channels (*channels of User #1-#3*) so that upstream frames (*Forward Link frames*) and downstream frames (*Reverse Link frames*) coincide across the plural channels (*channels of User #1-#3*) (*note: a controller in inherent inside the base station as disclosed in the Abstract. Moreover, on page 4, section 4, in according to Figure 4, Esmailzadeh discloses "the quasi-synchronous state of reception is achieved upon*

*subscription by a mobile unit. A base station transmits to all users at the beginning of each TDD frame. A user, trying to place a call, transmits its reverse link signal after awaiting a nominal waiting time tw. Base station then will instruct the user to increase/decrease tw for the user to make itself quasi-synchronous with other users. Upon achievement of the QS state, the guard time at the base station tgi will be equal for all users (=tg)".* The recitation thereat in view of Figure 4 anticipates the claimed limitation in a manner as recited).

(*note: computer code or programming instruction of claim 11 is equated to corresponding to method step of claim 1*)

Regarding **claim 11**, in accordance with Esmailzadeh reference entirety, Esmailzadeh discloses a memory (*not shown; inherent in base station of Figure 2 or Figure 4 disclosed in section 4*) storing information including instructions executable by a processor to manage time division duplexing (TDD) across plural channels (*Figure 4; channels of User #1-#3*), the instructions comprising:

synchronizing frames (*Figure 4*) (*TDD frames of User #1-#3*) across the plural channels (*channels of User #1-#3*) so that upstream frames (*Forward Link frames*) and downstream frames (*Reverse Link frames*) coincide across the plural channels (*channels of User #1-#3*) (*note: on page 4, section 4, in according to Figure 4,* Esmailzadeh discloses "*the quasi-synchronous state of reception is achieved upon subscription by a mobile unit. A base station transmits to all users at the beginning of each TDD frame. A user, trying to place a call, transmits its reverse link signal after awaiting a nominal waiting time tw. Base station then will instruct the user to*

*increase/decrease tw for the user to make itself quasi-synchronous with other users. Upon achievement of the QS state, the guard time at the base station tgi will be equal for all users (=tg)".* The recitation thereat in view of Figure 4 anticipates the claimed limitation in a manner as recited).

Regarding **claim 16**, in accordance with Esmailzadeh reference entirety, Esmailzadeh discloses a method of managing time division duplexing (TDD) across plural channels (*Figure 4; channels of User #1-#3*), comprising the step of:

synchronizing frames (*Figure 4*) (*TDD frames of User #1-#3*) across the plural channels (*channels of User #1-#3*) so that upstream frames (*Forward Link frames*) and downstream frames (*Reverse Link frames*) coincide across the plural channels (*channels of User #1-#3*) (*note: on page 4, section 4, in according to Figure 4,* Esmailzadeh discloses "*the quasi-synchronous state of reception is achieved upon subscription by a mobile unit. A base station transmits to all users at the beginning of each TDD frame. A user, trying to place a call, transmits its reverse link signal after awaiting a nominal waiting time tw. Base station then will instruct the user to increase/decrease tw for the user to make itself quasi-synchronous with other users. Upon achievement of the QS state, the guard time at the base station tgi will be equal for all users (=tg)".* The recitation thereat in view of Figure 4 anticipates the claimed limitation in a manner as recited).

3. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilbert et al (USP 6,016,311) (hereinafter "Gilbert").

Regarding **claim 1**, in accordance with Gilbert reference entirety, Gilbert discloses a method of managing time division duplexing (TDD) across plural channels (*Figure 4; channels of CPEs 110*), comprising the step of:

synchronizing frames across the plural channels so that upstream frames and downstream frames coincide across the plural channels (*note: In the Abstract and thereinafter, Gilbert discloses the communication channels are configured to have symmetric uplink/downlink bandwidths between the CPEs 104 and the base station 106. Moreover, at col. 13, line 40 and thereinafter, Gilbert further discloses co-channel interference is reduced by synchronizing the cell transmit/receive base stations 106 with or across cluster 160.* The recitation thereat in view of Figures anticipates the claimed limitation in a manner as recited).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Gilbert further discloses assigning one channel to each of plural CPE (110), wherein each CPE receives media access protocol messages (*address information*) on its assigned channel (*col. 10, lines 18-20*).

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales discussed above), Gilbert further discloses a base station controller (Fig. 5; 122 or *Fig. 9; 162*) generates the media access protocol messages, and wherein the media access protocol messages instruct the CPEs to switch channels so as to receive data burst (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18*).

Regarding **claim 4**, in addition to features recited in base claim 3 (see rationales discussed above), Gilbert further discloses wherein the base station controller includes

a centralized scheduler (cluster controller 162) that allocates channels and slots in those channels to the CPE for receipt of the data burst (*col. 13, lines 53-54 and thereinafter*).

Regarding **claim 5**, in accordance with Gilbert reference entirety, Gilbert discloses a method of receiving time division duplexed messages, comprising the step of: switching channels based on received media access control messages so as to receive data burst on plural channels (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18*).

Regarding **claim 6**, in accordance with Gilbert reference entirety, Gilbert discloses a base station (*Fig. 4; element 106*) that manages time division duplexing (TDD) across plural channels (*Figure 4; channels of CPEs 110*), comprising:

an input/output interface (not shown; inherent as shown in Fig. 6);

a transceiver (*Fig. 6; 132*);

a controller that synchronizes frames (*Figure 6; 128*) across the plural channels (so that upstream frames and downstream frames coincide across the plural channels (*note: In the Abstract and thereinafter, Gilbert discloses the communication channels are configured to have symmetric uplink/downlink bandwidths between the CPEs 104 and the base station 106. Moreover, at col. 13, line 40 and thereinafter, Gilbert further discloses co-channel interference is reduced by synchronizing the cell transmit/receive base stations 106 with or across cluster 160.* The recitation thereat in view of Figures anticipates the claimed limitation in a manner as recited).

Regarding **claim 7**, in addition to features recited in base claim 6 (see rationales discussed above), Gilbert further discloses wherein the controller further assigns one channel to each CPE of the plurality of CPEs (110), wherein said each CPE receives media access protocol messages (*address information*) on its assigned channel (*col. 10, lines 18-20*).

Regarding **claim 8**, in addition to features recited in base claim 7 (see rationales discussed above), Gilbert further discloses wherein the controller (Fig. 5; 122 or *Fig. 9; 162*) generates the media access protocol messages, and wherein the media access protocol messages instruct the CPE to switch channels so as to receive data burst (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18*).

Regarding **claim 9**, in addition to features recited in base claim 8 (see rationales discussed above), Gilbert further discloses wherein the controller further comprises a centralized scheduler (*cluster controller 162*) that allocates channels and slots in those channels to the consumer provided equipment for receipt of the data burst (*col. 13, lines 53-54 and thereinafter*).

Regarding **claim 10**, in accordance with Gilbert reference entirety, Gilbert discloses a consumer provided equipment (Fig. 7 or 8 and col. 11, line 16 to col. 13, line 3) that receives time division duplexed messages, comprising:

a transceiver (146 or 158) that can dynamically switch between plural channels; and

a controller (148 or 156) for controlling the transceiver, wherein based on the received media access control protocol messages, the consumer provided equipment switches channel so as to receive data bursts on plural channels.

(*note: computer code or programming instruction of claim 11 is equated to corresponding to method step of claim 1. Moreover, at col. 18, it is disclosed the ATDD method and apparatus may be implemented in hardware, software, or a combination of both*)

Regarding **claim 11**, in accordance with Gilbert reference entirety, Gilbert discloses a memory (*Fig. 6; 128)* storing information including instructions executable by a processor (*Fig. 6; 128)* to manage time division duplexing (TDD) across plural channels (*Figure 4; channels of CPEs 110*), the instructions comprising:

synchronizing frames across the plural channels so that upstream frames and downstream frames coincide across the plural channels (*note: In the Abstract and thereinafter, Gilbert discloses the communication channels are configured to have symmetric uplink/downlink bandwidths between the CPEs 104 and the base station 106. Moreover, at col. 13, line 40 and thereinafter, Gilbert further discloses co-channel interference is reduced by synchronizing the cell transmit/receive base stations 106 with or across cluster 160.* The recitation thereat in view of Figures anticipates the claimed limitation in a manner as recited).

Regarding **claim 12**, in addition to features recited in base claim 11 (see rationales discussed above), Gilbert further discloses assigning one channel to each of

plural CPEs (110), wherein each CPE receives media access protocol messages (*address information*) on its assigned channel (*col. 10, lines 18-20*).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Gilbert further discloses a base station controller (Fig. 5; 122 or *Fig. 9; 162*) generates the media access protocol messages, and wherein the media access protocol messages instruct the consumer provided equipment to switch channels so as to receive data burst (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18*).

Regarding **claim 14**, in addition to features recited in base claim 13 (see rationales discussed above), Gilbert further discloses wherein the base station controller includes a centralized scheduler (cluster controller 162) that allocates channels and slots in those channels to the consumer provided equipment for receipt of the data burst (*col. 13, lines 53-54 and thereinafter*).

Regarding **claim 15**, in accordance with Gilbert reference entirety, Gilbert discloses a memory storing information including instructions, the instructions executable by a processor to receive time division duplexed messages, the instructions comprising: switching channels based on received media access control messages so as to receive data burst on plural channels (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18*).

Regarding **claim 16**, in accordance with Gilbert reference entirety, Gilbert discloses an apparatus for managing time division duplexing (TDD) across plural channels (*Figure 4; channels of CPEs 110*), comprising:

means for synchronizing (*base station 106 or cluster controller 162)* frames across the plural channels so that upstream frames and downstream frames coincide across the plural channels (*note: In the Abstract and thereinafter, Gilbert discloses the communication channels are configured to have symmetric uplink/downlink bandwidths between the CPEs 104 and the base station 106. Moreover, at col. 13, line 40 and thereinafter, Gilbert further discloses co-channel interference is reduced by synchronizing the cell transmit/receive base stations 106 with or across cluster 160.* The recitation thereat in view of Figures anticipates the claimed limitation in a manner as recited); and

means for communicating (Figure 4; element 108) the frames synchronized by the means for synchronizing between the base station and the plurality of CPEs.

Regarding **claim 17**, in accordance with Gilbert reference entirety, Gilbert discloses an apparatus for receiving time division duplexed messages, comprising:

means for switching channels (110) based on received media access control messages so as to receive data burst on plural channels (*col. 13, lines 51-59 and col. 10, lines 18-20 and col. 13, lines 4-18 and Fig. 7 or 8*); and

means for receiving the data bursts (Fig. 4; element 108).

### ***Response to Arguments***

4. Applicant's arguments filed 09/07/04 have been fully considered but they are not persuasive.

In the Remarks of the outstanding response, on page 8, pertaining the rejection of claims 1, 6, 11 and 16 under 35 U.S.C. § 102(b) as being anticipated by Esmailzadeh et al, Applicants argue "Esmailzadeh does not disclose time division duplexing using TDMA".

In response to applicant's arguments, the recitation "time division multiple access (TDMA)" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In the Remarks of the outstanding response, on pages 9-10, pertaining the rejection of claims 1-17 under 35 U.S.C. § 102(e) as being anticipated by Gilbert et al, Applicants argue "Independent claims 1, 6, 10, 11, and 16, as amended, recite that the plural channels are between a base station and CPEs ... Gilbert apparently does not disclose switching channels to receive messages over a plural of channels".

In response to applicant's arguments, the recitation "between a base station and a plural of CPEs" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead,

the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Examiner believes an earnest attempt has been made in addressing all of the Applicants' arguments. Due to the amendment fails to place the application in a favorable condition for allowance and the applied art still read on the claimed inventions as presented, the rejection is maintained.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frank Duong whose telephone number is (571) 272-3164. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank Duong
Examiner
Art Unit 2666

December 29, 2004